RECLAMATION COST CHECKLIST

NOTE: This checklist is provided to assist the operator in calculating the engineering and environmental costs required to properly stabilize and reclaim the area disturbed by mineral exploration and/or mining operations. The checklist is designed to accompany the RECLAMATION COST ESTIMATION SUMMARY SHEET. It is not all inclusive, but is intended to serve as a reminder of issues that should be considered.

Access roads and drill pads

1. Mobilization and demobilization
2. Recontouring or regrading to approximate the original topography as closely as possible.
3. Removal of culverts.
4. Ripping or scarifying the surface.
5. Water diversion construction.
6. Restoration or stabilization of drainage areas or stream beds.
7. Revegetation.

Drill hole and well abandonment

1. Use the requirements for drill-hole and well (water, monitoring and piezometer) abandonment as mandated by your state mining and/or environmental regulatory agencies. Include a graphic if necessary.

Trenches, pits, shafts, and adits

1. Mobilization and demobilization.
2. Recontouring or regrading to approximate the original topography as closely as possible.
3. Revegetation.
4. Securing portals from public entry.

Waste rock dumps, overburden, and interburden storage areas

1. Encapsulation, mixing or other engineered placement method in controlling acid rock drainage (ARD) migration.
2. Recontouring and regrading to approximate the surrounding topography as closely as possible to enhance stability, reduce susceptibility to erosion, and facilitate efforts to establish vegetation.
3. Diversion of run-on.
4. Covering with rock, clay, topsoil, other growth medium or other cover material.
5. Revegetation.

RECLAMATION COST CHECKLIST CONTINUED

Dams for tailings ponds

1. Covering with rock, clay, topsoil, other growth medium or other cover material.
2. Revegetation.
3. Rendering the dam incapable of storing any mobile fluid in a quantity which could pose a threat to the stability of the dam, or to public safety.
4. Construction of temporary containment basins and water treatment facilities for leakage or outflow of effluent.

Impoundment for tailings

1. Regrading to promote run-off and reduce infiltration.
2. Covering with waste rock, clay, topsoil, other growth medium or other cover material.
3. Revegetation.
4. Diversion of run-on.
5. Temporary containment basins and water treatment facilities for leakage or outflow of effluent.

Heaps from leaching

1. Cost of maintaining proper fluid management to prevent overflow of solution ponds through premature cessation or abandonment of the operation (six month direct cost estimate for recirculating process fluids). Include the cost of a Process Fluid Inventory, which typically runs from $15,000 to $35,000, depending on site complexity.
2. Rinsing, detoxification and neutralization procedures as approved in the notice.
3. Containment and treatment of outflows of residual chemicals or fluids from the heaps, including any disposal of surplus or drain down water. Include all engineering, development and reclamation costs.
4. Diversion of run-on.
5. Regrading to enhance structural stability, promote run-off, reduce infiltration, and control erosion.
6. Covering with waste rock, clay, topsoil, other growth medium or other cover material.
7. Stabilization and revegetation.

Solution ponds, settling ponds, and other non-tailings impoundments

1. Backfilling and grading as approved in the notice.
2. Restoration of the pre-disturbance surface water regime, if appropriate.
3. Proper disposal of process pond sludge.

Building foundations, facilities, structures and other equipment

1. Demolition costs to the level of the foundation and burial costs of the demolition debris on site, in conformance with applicable solid waste and hazmat disposal requirements.
2. Salvage operations and sale costs. No provision for salvage value or credit is permitted.

RECLAMATION COST CHECKLIST CONTINUED

3. Off-site disposal costs of "1" above, in conformance with applicable solid waste disposal and hazmat requirements.
4. Costs of continued use in a manner that is consistent with the proposed post mining land use.

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Open pit mines

1. Providing for the public safety.
2. Stabilization of pit walls or rock faces where required for public safety.
3. Construction and maintenance of berms, fences, or other means of restricting public access.
4. Costs associated with the creation and maintenance of a lake for recreation, wildlife enhancement, or other beneficial use.
5. Revegetation

Underground mines

1. Sealing shafts, adits, portals, and tunnels to prevent access.
2. Construction and maintenance of berms, fences, or other means of restricting access.

Revegetation

1. Application of top soil or other growth medium.
2. Seed bed preparation.
3. Selection of appropriate species of seeds or plants (consult BLM staff specialist).
4. Addition of soil amendments such as fertilizers, mulches, or other compounds to assist in plant growth.
5. Planting or seeding (equipment, personnel, cost of seeds/plants).

Site Maintenance, Monitoring, and Evaluation

1. Any site monitoring costs as required by the BLM.
2. Monitoring well costs for heaps, leach fields, bioreactors and tailings ponds as required by the [insert the requirements mandated by your state=s mining and/or environmental regulatory agency}.
3. Evaluation to determine whether the revegetation and slope stability meet the criteria established for bond release or project closeout if work is done by BLM contractor.